



# DHMH Extreme Cold Emergency Plan **2016 Version 1.0**

November 22, 2016, through March 13, 2017

Maryland Department of Health and Mental Hygiene

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### ***Record of Changes***

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### ***Organizational Acronyms***

DHMH - Maryland Department of Health and Mental Hygiene

DHR - Maryland Department of Human Resources

EMA - Emergency Management Agency

LHD - Local Health Department

MDoA - Maryland Department of Aging

MEMA - Maryland Emergency Management Agency

MIEMSS - Maryland Institute for Emergency Medical Services Systems

NWS - National Weather Service

OCME - Office of the Chief Medical Examiner

OHCQ - Office of Health Care Quality

PSC - Public Service Commission

## **Summary**

### ***Purpose***

The DHMH Extreme Cold Emergency Plan, developed by the Maryland Department of Health and Mental Hygiene (DHMH), guides DHMH actions during an extreme cold event, as defined below. This plan also provides guidance for Local Health Departments (LHDs) to support them as they fulfill their roles; however, it does not mandate that LHDs perform the suggested actions described.

### ***Local Health Department Actions***

All actions listed for LHDs in this plan are suggestions. Local jurisdictions each handle extreme cold differently and the recommendations included here may not be applicable or practical for all health departments or may be fulfilled by a different organization at the local level.

## **Definitions**

*Extreme Cold Event* – An extreme cold event is a weather condition with excessively low temperatures or a combination of cold temperatures and wind that has the potential to cause cold-related illnesses or injuries. An extreme cold event is defined in hours, a day or series of days when:

- The minimum temperature or wind chill is forecast to be approximately -5°F or lower.
- Weather or environmental conditions are such that a high incidence of cold-related illnesses or injuries can reasonably be expected.

*Complex Cold Emergency* – A Complex Emergency is a condition of an Extreme Cold Event with complications requiring additional response. Examples of such complications are power outages, heavy precipitation (snow or ice) or an extended period of low temperatures combined with strong winds.

*Shelters* – Due to the coldest temperatures occurring overnight, sheltering the homeless is the primary concern in sheltering operations. Sheltering operations may also be employed or expanded during winter storms to reduce the risk to vulnerable populations. Both homeless and disaster shelters will be referred to in this plan as simply ‘shelters.’

*Wind Chill* – Wind Chill or the apparent temperature is a measure of what the temperature actually feels like. Wind Chill is a factor of both the actual temperature and wind speed, and is the best indicator for a pending extreme cold event. Wind Chill is the key indicator of Extreme Cold defined by the National Weather Service.<sup>1</sup>

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<sup>1</sup> <http://www.weather.gov/om/windchill/index.shtml>

*Wind Chill Advisory* – The National Weather Service issues this product when the wind chill could be life threatening if action is not taken. In Maryland, wind chill advisories are issued when wind chill temperatures are forecast to range from -5°F to -20°F.

*Wind Chill Warning* – The National Weather Service issues this product when the wind chill is life threatening. In Maryland, wind chill warnings are issued when wind chill temperatures are forecast to be below -20°F.

*Cold-related Illness* – A Cold-related Illness is a condition caused by extreme cold, usually hypothermia medical condition exacerbated by the cold. Hypothermia is likely at lower temperatures when the subjects are wet due to rain, fog or snow. For the purposes of this plan, cold-related injuries will be also referred to as cold-related illness.

*Hypothermia* – When exposed to cold and the body's mechanisms are unable to replenish the heat that is being lost, a drop in the body's core temperature occurs, causing symptoms such as shivering and mental confusion.

*Cold-related Injury* – A Cold-related Injury is damage caused by extreme cold, also known as frostbite. Like hypothermia, frostbite is likely at lower temperatures when the subjects are exposed to the cold when wet due to rain, fog or snow.

*Frostbite* – Frostbite is the medical condition where localized damage is caused to skin and other tissues due to extreme cold.

*Carbon monoxide (CO) Poisoning* – Due to the prevalence of heaters and fuel-burning devices during the winter, carbon monoxide (CO) poisoning presents the greatest risk during the winter months.<sup>2</sup>

*High-Risk Groups* – High-Risk Groups are populations that are disproportionately affected by Extreme Cold. These groups include babies sleeping in cold rooms; elderly people with inadequate food, clothing or heating; people who remain outdoors for long periods (homeless, hunters, hikers, etc.) and people who drink alcohol or use drugs.

## **Maryland Regulations on Power Termination**

COMAR 20.31.03.03 forbids utility companies from terminating the power of an occupied residential building for nonpayment of bills without submitting an affidavit to the Public Service Commission (PSC) that the termination does not constitute a threat to the life or health of the residential occupants. In addition, PSC forbids termination for nonpayment of bills on any day when the forecast temperature made at 6 a.m. is 32°F or below through the extreme weather period.

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<sup>2</sup> <http://www.crh.noaa.gov/oax/safety/carbonmon.php>

## **Phase 1: Pre-Winter**

### ***Triggers***

- Pre-winter activities begin in October.

### ***Surveillance***

- The National Weather Service (NWS) determines the cold impact in the forecast. The Maryland Emergency Management Agency (MEMA) monitors data from the Sterling, Pittsburgh, Mt. Holly and Wakefield NWS stations.
- DHMH conducts daily analysis of syndromic surveillance data from hospital emergency departments for indications of an increase in hypothermia, frostbite, chilblain, trench foot or carbon monoxide (CO) poisoning.

### ***DHMH Actions***

- DHMH will conduct an annual review of the DHMH Extreme Cold Emergency Plan and revise and update as necessary.
- DHMH will provide guidance and recommend best practices to aid jurisdictions in revising local Cold Emergency Plans as requested.
- DHMH will update its website to include accurate LHD contact information.
- DHMH will distribute the revised Cold Emergency Plan LHDs and planning partners.

### ***Local Health Department Actions***

- LHDs should verify contact information on DHMH's website.
- LHDs may monitor the NWS for local temperature data.
- LHDs may review planning activities and maintain situational awareness.

### ***Public Information***

- DHMH and LHDs should review and revise written and electronic public information materials.

## **Phase 2: Pre-Event**

### ***Triggers***

- DHMH will begin conducting enhanced surveillance for cold-related morbidity and mortality on November 22, 2016.

### ***Surveillance***

- DHMH and local agencies should monitor weather forecasts for the possibility of predicted weather conditions consistent with extreme cold.
- DHMH will distribute weekly reports and analysis of the public health impact of cold-related illnesses. The weekly reports will be made available to the public at a predetermined time every week. These reports will include, but may not be limited to:
  - Temperature data via the National Weather Service.

- Emergency department visits for hypothermia, frostbite and CO poisoning through DHMH's syndromic surveillance system.
- EMS Patient Care Report Data.
- Number of cold-related deaths reported by the Office of the Chief Medical Examiner (OCME).
- Cold advisory reference information.
- MEMA will monitor power outages in the state.
- MEMA will coordinate with local Emergency Management Agencies (EMAs) to monitor large public events with the potential to create a mass casualty incident.
- The Maryland Institute for Emergency Medical Services Systems (MIEMSS) will monitor Emergency Medical Services (EMS) statewide to monitor and track the number of hypothermia, frostbite and CO poisoning emergency calls.

#### ***DHMH Actions***

- DHMH and jurisdictions should consider holding press conferences or issuing a press release on or just prior to the day of the first forecast extreme cold event, or;
- DHMH and jurisdictions should launch cold plan activities by the first week of December if no extreme cold events have occurred.
- DHMH will make a press announcement on or just prior to the day of the first extreme cold event or by the third week in December if no extreme cold events have occurred.
- DHMH will review and revise this plan following any extreme cold events as necessary.
- DHMH Office of Health Care Quality (OHCQ) will contact nursing homes to promote winter preparedness, reminding them to check their generators and HVAC systems and to report real or potential concerns and issues.

#### ***Local Health Department Actions***

- LHDs may monitor the NWS for local temperature data.
- LHDs may review planning activities and maintain situational awareness.

#### ***Demobilization***

- DHMH will proceed to Phase 6 of this plan in March.

## **Phase 3: Extreme Cold Event – Wind Chill Advisory**

#### ***Triggers***

- The NWS has issued a Wind Chill Advisory, or;
- Temperatures meeting the criteria for a Wind Chill Advisory are likely within the next 12 to 48 hours.

#### ***Surveillance***

- DHMH will maintain passive situational awareness on vulnerable facilities. Vulnerable facilities include those designated in the facility tracking protocol: dialysis centers, nursing homes, assisted living facilities and hospice.

- DHMH will continue to monitor syndromic surveillance systems and issue the weekly report outlined in Phase 2.
- DHMH and MEMA will monitor NWS forecasts for any indication of extreme cold.
- MEMA will monitor power outages.

#### ***DHMH Actions***

- DHMH will notify the state or jurisdiction expected to be impacted by an extreme cold event.
  - The DHMH advisory will also be sent to other state and local agencies.
  - DHMH may choose to make the advisory public through release to media outlets, posting on select state agency websites and other means deemed appropriate, including social media.
- DHMH will review extreme cold checklists and begin taking appropriate actions.
- DHMH will coordinate with MIEMSS to issue alerts when appropriate.
- DHMH and MEMA will maintain situational awareness and gauge the potential impact of the anticipated event.

#### ***Local Health Department Actions***

- LHDs may notify local extreme cold planning partners.
- LHDs may coordinate with EMAs for recommending heightened mitigation protections or discouraging outdoor public events.
- LHDs may coordinate with relevant organizations to provide outreach to vulnerable populations as applicable.
- LHDs may coordinate with existing volunteers and partners for responding to extreme cold.
- LHDs may coordinate public messaging with public access numbers such as nonemergency dispatch, 211, 311 or reverse 911 systems.
- LHDs may notify DHMH of any shelter openings
- LHDs may recommend government and schools restrict outdoor activities.

#### ***Public Information***

- DHMH will coordinate with each jurisdiction on extreme cold event communications.
- DHMH and LHDs should employ consistent messaging that urges individuals to check on elderly neighbors and family members.
- DHMH and LHDs should include pet emergency preparedness for cold emergency prevention in messaging. Resources can be found at Ready.gov<sup>3</sup>.
- Jurisdictions may utilize existing digital signage (such as outside firehouses, other public buildings or on public buses) to display concise cold safety tips.

#### ***Demobilization***

- DHMH will revert to Phase 2 when temperatures rise above 20°F absolute temperature.

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<sup>3</sup> <http://www.ready.gov/america/getakit/pets.html>



## **Phase 4: Extreme Cold Event – Wind Chill Warning**

### ***Triggers***

- The NWS has issued a Wind Chill Warning, or;
- Temperatures meeting the criteria for a Wind Chill Warning are likely within the next 12 to 48 hours, or;
- Temperatures meeting the criteria for a Wind Chill Advisory are expected to continue for three or more days.

### ***DHMH Actions***

DHMH will take all the actions outlined in Phase 3: Extreme Cold Event – Wind Chill Advisory and:

- DHMH will engage 211 as a public access number for cold-related questions and provide 211 with up-to-date public messaging materials.
- DHMH will conduct conference calls to discuss potential impact of event with stakeholders. The calls may include, but are not limited to:
  - Internal DHMH staff
  - LHD staff
  - Other state agencies
- DHMH and DHR will gather information on sheltering operations to report to MEMA.
- DHMH will operate at an Enhanced Readiness level, in preparation for a Complex Cold Emergency.
- DHMH will supply local health departments with updated lists of licensed facilities for tracking.

### ***Local Actions***

- LHDs may provide DHMH with updated information on local shelters.

### ***Demobilization***

- DHMH will revert to Phase 2 when temperatures rise above 20°F.

## **Phase 5: Complex Cold Emergency**

### ***Triggers***

- DHMH and MEMA will use discretion in deciding what conditions constitute a complex cold emergency, which may include, but are not limited to:
  - Significant power outages, or;
  - Extended periods of low temperatures with a wind chill of -5°F, or;
  - Severe precipitation during a cold event causing significant hail or snowfall, or;
  - Any other factors that would exacerbate a cold emergency.

### ***Surveillance***

- DHMH will begin issuing the Daily Cold-Related Illness Surveillance Report through the duration of the emergency.

- The final Daily Report will be issued the day following the final cold emergency day, with surveillance data from the final cold emergency day.
- DHMH will release death information at the discretion of the Deputy Secretary.
  - The distribution of death data will follow a prescribed flow of information due to the overwhelming number of requests for information during these events.
  - Current processes include, but are not limited to:
    - OCME death data will be routed internally to the Office of Preparedness and Response.
    - Local Health Officers or their designees will be notified of the details of deaths in their jurisdiction by DHMH.
    - The daily report is sent to planning partners and posted to the DHMH website.

### ***DHMH Actions***

- DHMH will conduct regular conference calls to discuss the potential impact of event with stakeholders. The calls may include, but are not limited to:
  - Internal DHMH staff
  - LHD staff
  - Other state agencies
- DHMH will activate the facility tracking protocol for the monitoring of vulnerable facilities if the health and safety of the residents of those facilities would be put at risk due to the emergency.
- DHMH will coordinate with MEMA, DHR, MDoA and LHDs to monitor, track and post the locations of shelters statewide.
- MEMA will request information from local EMAs on events that may be affected by the complex cold emergency.
- MEMA will assume incident command for the cold incident and begin coordinating Emergency Support Functions in support of a response.

### ***Local Health Department Actions***

- LHDs may notify their EMAs of large-scale public events in the local jurisdiction that have the potential to result in a mass casualty incident.
- Local EMAs may notify MEMA of the above events.
- LHDs may recommend greater mitigation protections or cancellation of outdoor public events.
- LHDs may activate facility tracking protocols.

### ***Power Outages***

- In the event of a widespread or prolonged power outage, DHMH will coordinate with MEMA, the Public Service Commission and power companies to ensure that facilities with vulnerable populations outlined above receive priority in restoration due to the life-threatening nature of extreme cold in a powerless facility.

### ***Public Information***

- MEMA may activate a Joint Information Center (JIC) to address public messaging.

- MEMA and DHMH, through the JIC, will use 211 or public access numbers to distribute cold emergency information.
- If pharmacy restrictions on the ability to renew prescriptions will be lifted due to the emergency, the public will be notified through the JIC.
- Local jurisdictions with access to reverse-911 systems may use them to provide cold advisory warnings to identified vulnerable populations.

### ***Demobilization***

- DHMH will revert to a previous phase once the complicating factors have been resolved or MEMA stands down the SEOC:
  - DHMH will revert to Phase 4 if a Wind Chill Warning is in effect,
  - DHMH will revert to Phase 3 if a Wind Chill Advisory is in effect,
  - DHMH will revert to Phase 2 if temperatures have risen back to 20°F.

## **Phase 6: Post-Winter**

The post-winter activities typically begin in mid-March and include After Action Reporting and planning for the next operational period.

### ***Triggers***

- DHMH will terminate enhanced surveillance for cold-related morbidity and mortality on March 20, 2016.
- Post-winter activities begin in March.

### ***DHMH Actions***

- DHMH will cease circulating weekly cold reports in March.
- Where applicable, DHMH will collect After Action Reports from the jurisdictions and determine best practices to be included in the following year's planning efforts.
- DHMH will collect, analyze and release statewide surveillance data from the winter for use in future cold planning.
- DHMH will review and update the State Cold Plan, including a comprehensive review of local plans and resources, to be completed by October 31.

### ***Local Health Department Actions***

- LHDs may cease cold-event monitoring
- LHDs may coordinate with DHMH on an annual cold plan review.
- LHDs may identify organizations serving high-risk populations that can be utilized in following season.
- LHDs may conduct an evaluation of interventions:
  - Review evaluation tools to monitor effectiveness.
    - Shelter usage.
    - Transportation program usage, if available.
    - EMS system usage.